

TRIVIA, FACTS AND OTHER STUFF

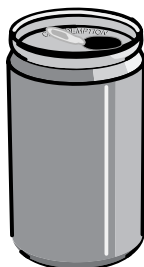


The numbers following each trivia piece correspond to the numbers in the "Works Cited" section.

ALUMINUM:

Every minute of every day over 120,000 aluminum cans are recycled in the U.S. (11)

Recycling aluminum results in 95% less air pollution and 97% less water pollution than producing aluminum from natural resources. (9)



Recycling aluminum saves 95% of the energy that would be required to mine bauxite ore and extract alumina, the raw materials needed to manufacture aluminum. (49)

For each pound of aluminum recycled, you eliminate the need to mine four pounds of bauxite ore. (48)

Recycling 1 ton of aluminum saves the equivalent in energy of 2,350 gallons of gasoline. This is equivalent to the amount of electricity used by the typical home over a period of 10 years. (28)

One recycled aluminum can saves enough electricity to operate a TV for 3 hours. (55)

Using recycled aluminum beverage cans to produce new cans allows the aluminum can industry to make up to 20 times more cans for the same amount of energy. (11)

Americans discard enough aluminum to rebuild our entire commercial air fleet every 3 months. (2)

The aluminum beverage can returns to the grocer's shelf as a new, filled can in as little as 90 days after collection, remelting, rolling, manufacturing and distribution. Consumers could purchase the same recycled aluminum can from a grocer's shelf every 13 weeks or 4 times a year. (11)

It's estimated that since 1972 some 13 million tons of aluminum cans have been recycled in the U.S. These 534.7 billion aluminum cans placed end-to-end could stretch to the moon some 170 times. (11)

The average American family recycles 150 six-packs of aluminum cans a year. (1)

Used aluminum cans are melted down into ingots which can weigh as much as 30,000 tons. That's enough aluminum to make 1.6 million cans. (38)

When introduced in the early 1960's, 1,000 aluminum beverage cans weighed about 55 lbs. Today, through improved design, 1,000 aluminum beverage cans weigh less than 35 lbs. This is a significant reduction in raw material use and in waste to be recycled. (38)

According to the U.S. Environmental Protection Agency (EPA), aluminum cans represent less than 1% of the nation's solid waste stream. (11)

Recycling has created an estimated 30,000 jobs since 1970. In 1985, an estimated 2 million aluminum can collectors earned over 200 million dollars for their recycling efforts. (3)

To make a ton of aluminum from raw materials, we have to treat and dispose of 3,290 lbs. of red mud, 2,900 lbs. of carbon dioxide, 81 lbs. of air pollutants and 789 lbs. of solid wastes. (5)

GLASS:

In the U.S., approximately 13.2 million tons of glass waste are generated annually and about 22% of all glass beverage containers are recycled. (62)

About 5 billion glass bottles and jars of all kinds are recycled each year in the United States; a nearly 500% increase in the last ten years. That represents about 2.5 billion pounds of glass that won't end up in a landfill. (38)



We save over a ton of resources for every ton of glass recycled--1,330 lbs. of sand, 433 lbs. of soda ash, 433 lbs. of limestone and 151 lbs. of feldspar. (21)

A ton of glass produced from raw materials creates 384 pounds of mining waste, using 50% recycled glass, cuts it by about 75%. (21)

(Revised 11/98)

Using recycled glass to make new glass cuts related air pollution by up to 20%. (10)

Recycling 1 ton of glass saves the equivalent in energy of 10 gallons of oil. (28)

Recycling a glass bottle saves enough energy to light a 100-watt bulb for 4 hours. (51)

Most bottles and jars contain at least 25% recycled glass. Glass never wears out-it can be recycled forever. (21)

About 75% of the United State's glass is used for packaging. (21)

If all the glass bottles and jars collected through recycling in the U.S. in 1994 were laid end to end, they'd reach the moon and half way back to earth. (24)

Glass containers recycled in the U.S. in 1994, would fill 103,333 tractor trailers. Bumper to bumper, they'd stretch from Dallas to Los Angeles. (24)

Glass makes up about 8% of America's municipal waste. (21)

More than 4,000 California restaurants and bars recycle their glass. (6, 10)

PLASTICS:

Plastics are made from petroleum-a limited, nonrenewable resource. It is predicted that by the year 2040, the Earth's usable petroleum reserves will have been depleted. (56)

In 1987, the U.S. used almost 1 billion barrels of oil, just to make plastics. (51)

When buried, some plastic materials may last for 700 years. (Manufacturers add inhibitors that resist the decomposition process necessary to break down the plastic.) (51)

If the Pilgrims had six-packs, we'd still have the plastic rings from them today. (21)

Over 46,000 pieces of plastic debris float on every square mile of ocean. (51)

Although polystyrene foam is completely non-biodegradable, it is recyclable. (21)

If you lined up all the polystyrene foam cups made in just one day, they would circle the earth. (20)

Plastics are the fastest growing share of the U.S. wastestream accounting for 5% of household throwaways. Every American uses almost 200 pounds of plastic in a year - 60 pounds of it for packaging. (51)

According to Dr. Jack Milgram, a plastics analyst, "Recycling plastics saves twice as much energy as burning them..." (51)

Americans use 4 million plastic bottles every hour! -- yet only 1 bottle out of 4 is recycled. (41)

Americans make enough low density polyethylene (LDPE) plastic every year to shrink-wrap the state of Texas. Most of it ends up in landfills. (41)

Plastics are part of the wastestream: although they account for only 8% of the waste by weight, they occupy about 20% of the volume in a landfill due to their low bulk density. (22)

In 1988 we used 2 billion pounds of HDPE just to make bottles for household products. That's about the weight of 900,000 Honda Civics. (21)

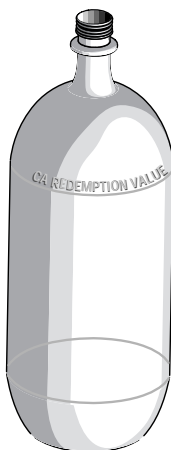
Over 16 million tons of plastic waste are generated annually in the U.S. and about 2.2% of all plastics is currently recycled. (62)

In the United States, some 3.7 billion PET soft drink bottles (representing 38%) sold in 1992 were recycled, up from 2.8 billion in 1991. This surpasses the plastic industry's goal of recycling 25% of all types of plastic bottles by 1995. (38)

By the year 2000, PET bottle use in the U.S. is expected to reach 4.7 billion pounds, an increase of 143% since 1994. (29)

Since the introduction of PET containers in the late 1970's, the industry has reduced the weight of PET in 2-liter bottles from 67 grams on average to about 48 grams; a 28% reduction. (38)

About nine billion plastic bottles are produced annually in the U.S., about two-thirds of which end up in landfills or incinerators. Most of the rest go to Wellman Inc. a recycling facility in South Carolina. Wellman annually recycles about 2.4 billion plastic bottles into a polyester fiber known as Fortrel EcoSpun, which ends up in activewear. (40)



MISCELLANEOUS:

Our Litter & Its Decomposition Time:

• Glass Bottles/Jars	1,000,000 years
• Aluminum Cans	80-100 years
• Rubber Boot Soles	50-80 years
• Leather Items	up to 50 years
• Nylon Material	30-40 years
• Plastic Bags/Disposable Diapers	10-20 years
• Plastic Coated Paper	5 years
• Wool Cap	1-5 years
• Cigarette Butts	1-5 years
• Orange and Banana Peels	2-5 weeks
• Newspaper	2-4 weeks

(47)

An average American uses 8 times the natural resources of the average world citizen - and produces 5 times the air pollution of the average world citizen. (60)

In 1993, a curbside bin of recyclables was worth \$46 per ton. In 1995, a curbside bin of recyclables was worth \$165 per ton - an increase of 259%. (29)

We pay more for food packaging than we pay the American farmer for growing food. (54)

The 64-store Purity Supreme supermarket chain in Bedford, MA, has opened "green checkout lanes" that are open only to customers who bring their own bags to the store. (35)

At about \$500 million, the cost of building an incinerator is three times that of recycling facilities that can handle the same amount of trash. (66)

HISTORICAL PERSPECTIVES:

In some cities, garbage was simply tossed out the window and covered periodically with dirt. During the Bronze Age in Troy, it is estimated that the street level rose an average of about 4.7 feet per century! Gradually, ancient cities like Athens and Jerusalem developed city codes regulating the disposal of garbage. (64)



About 500 B.C., Athens issued the first known edict against throwing garbage into the streets, and organized the first municipal dumps by requiring scavengers to dispose of waste no less than one mile from the city walls. (65)

In the mid-1930's, the first "sanitary landfills" were built in California and New York. These were really only open pit dumps, covered with dirt regularly to hide trash and cut down on flies, rats and odors. (21)

As late as 1947, virtually 100% of all beverage containers were returnable. (21)

The first "architectural" use of aluminum was the cast 100-ounce tip of the Washington Monument (which is still in place). (25)

The compacting garbage truck, called the "Packer," was introduced in 1950. (21)

In 1955, the Corvette became the first car built with plastic body panels. (18)

The biggest advance in glass manufacturing prior to the 19th century occurred in 200 B.C. when Babylonian craftsmen discovered the art of glass blowing. (46)

Napoleon III is reported to have been the aluminum industry's first customer. The French emperor backed Henri-Etienne Sainte-Claire Deville's chemical extraction experiments. Deville developed a practical way to produce aluminum chemically. When the experiments produced the first aluminum in any quantity, it went into a rattle for the emperor's son. (25)

Napoleon had dinnerware made of aluminum. At this time, less important guests had to use gold and silver. (25)

In 1868, John Wesley Hyatt invented the first plastic (celluloid) to make billiard balls during an ivory shortage that threatened the billiard industry. (18)

Photographic film made with celluloid (one of the first plastics) was perfected in the late 1800's. Celluloid film led to a new era in entertainment, the motion picture. (18)

Curbside recycling originated in 1874 in Baltimore. (21)

Between 1960 and 1984, the number of soda containers in America's solid waste stream tripled. (21)

The all-aluminum can was introduced in 1964. (21)

The first PET bottle was recycled in 1977. (37)

In 1982, the U.S. Army started using a helmet made of a plastic composite called Kevlar* - the same material in bulletproof vests used by police officers. The plastic helmet is about 30% more effective at stopping shell fragments. (18)

**Trademark of E.I. DuPont & Company, Inc.*

In 1986, Rhode Island became the nation's first state to pass a mandatory recycling law for aluminum and steel "tin" cans, glass, plastic (PET and HDPE) and newspapers. (30)

In 1989, more than 90,000 African elephants were killed for their ivory. Even when most countries prohibited commercial trade of ivory, poaching still occurred. However, the increased use of plastic as an ivory replacement has reduced the demand and price of ivory, making poaching less profitable. (18)

WORKS CITED

1. The Aluminum Association. **Fact Sheet**. 900 19th St., NW, Washington, DC 20006.
2. Amoco Foam Products Company. **Teacher's Recycling Kit**. Amoco Foam Products Company. (800) 637-3873.
3. "At a Glance." Column. (June 1988). **Waste Age**. p. 3.
4. "At a Glance." Column. (February 1991). **Waste Age**. p. 5.
5. Browning-Ferris Industries. (1992). **MOBIUS™ Curriculum: Understanding the Waste Cycle**. Browning-Ferris Industries, Inc., P.O. Box 3151, Houston, TX 77253-9984.
6. California Integrated Waste Management Board. (1994). **Annual Report**. California Integrated Waste Management Board, Office of Public Affairs and Education, 8800 Cal Center Dr., Sacramento, CA 95826. (916) 255-2385.
7. California Integrated Waste Management Board. (1995). **Toward Ensuring Adequate Landfill Capacity**. California Integrated Waste Management Board, Office of Public Affairs and Education, 8800 Cal Center Dr., Sacramento, CA 95826. (916) 255-2385.
8. California Integrated Waste Management Board. (1990). **Waste Composition Study**. California Integrated Waste Management Board, Office of Public Affairs and Education, 8800 Cal Center Dr., Sacramento, CA 95826. (916) 255-2385.
9. California Integrated Waste Management Board. **A Week With Waste**. California Integrated Waste Management Board, Office of Public Affairs and Education, 8800 Cal Center Dr. Sacramento, CA 95826. (916) 255-2385.
10. Californians Against Waste Foundation. **Recycling Means Business in California**. Californians Against Waste Foundation, 926 J Street, Sacramento, CA 95814. (916) 443-5422.
11. Can Manufacturers Institute. (1993). **The Great Aluminum Can Roundup**. Can Manufacturers Institute, 1625 Massachusetts Avenue, NW, Washington, DC 20036.
12. City and County of Honolulu, Hawaii State Department of Education & Recycling Association of Hawaii. (October 1990). **Recycle Hawaii - For Kids**. 1st ed. Recycling Association of Hawaii, 162-B North King Street, Honolulu, HI 96817.
13. Connecticut Department of Environmental Protection. **How to Get More Life Out of Dead Batteries (and Used Motor Oil)**. Connecticut Department of Environmental Protection, Waste Management Bureau/Recycling, 165 Capitol Avenue, Hartford, CT 06106.
14. Contra Costa County Community Development Department. (1991). **Fact Sheet**. Contra Costa County Community Development Department, 651 Pine Street, North Wing, 4th Floor, Martinez, CA 94553. (510) 335-1277.
15. "Cost Savings are in the Details: The Total Project Cost Approach to Landfill Design." (January 1996). **Waste Age**. p. 81.
16. Council for Textile Recycling. (1991). **Textile Recycling Fact Sheet**. Council for Textile Recycling, 7910 Woodmont Ave., Suite 1212, Bethesda, MD 20814. (301) 718-0671.

17. Dow Chemical Company. (1991). **Landfills**. Dow Chemical Company, 2040 Dow Center, Midland, MI 48674.
18. Dow Plastics. (1991). **Recycle This! Environmental Jeopardy**. Dow Plastics, 2040 Dow Center, Midland, MI 48674.
19. **Earth Care Paper Fact Sheet**. P.O. Box 14140, Dept. 619, Madison, Wisconsin 53714. (608) 277-2900.
20. EarthWorks Group. (1990). **50 Simple Things Kids Can Do to Save The Earth**. Kansas City: Andrews and McMeel. The EarthWorks Press, 1400 Shattuck Ave. #25, Berkeley, CA 94707. (415) 841-5860.
21. EarthWorks Group. (1990). **The Recycler's Handbook**. Berkeley, CA: The EarthWorks Press, 1400 Shattuck Ave. #25, Berkeley, CA 94707. (415) 841-5860.
22. Exxon Chemical Company. (May 15, 1992). **Chemtalk**. Exxon Chemical Company, Chemtalk - Public Affairs Department, 13501 Katy Freeway, L3-369, Houston, TX 77079.
23. First Brands Corporation. **What Does It Do? Where Does It Go?** First Brands Corporation, Makers of GLAD Plastics Wrap and Bags, 9 W. Broad Street, Stamford, CT 06902.
24. Glass Packaging Institute. (1990). **Glass Fact Sheet**. Glass Packaging Institute. 740 E. 52nd Street, Suite 8, Indianapolis, IN 46205.
25. Golden Aluminum Company. (1989). **Aluminum Trivia**. Golden Aluminum Company, 3000 Youngfield, Ste. 230, Lakewood, CO 80215.
26. Havstad, C., Nelson, C., & Shaffer, S. (Nov. 1991). **Compost! A Teacher's Guide to Activities & Resources in the East Bay**. Alameda County Home Composting Education Program: Rotline (510) 635-6275.
27. Hayes, D. (1978). "Repairs, Reuse, Recycling - First Steps Toward a Sustainable Society." **Worldwatch Paper 23**. The Worldwatch Institute, 1776 Massachusetts Avenue, NW, Washington, DC 20036.
28. Indiana Department of Education. (1992). **Waste Reduction Guide**. Indiana Department of Education, Room 229, State House, Indianapolis, IN 46204-2798.
29. "Is Mixed Plastic Bottle Recycling Working?" (September 1995). **Resource Recycling**. p. 16.
30. "Landfills are #1." (September/October 1990). **Garbage**. p. 42.
31. "Manufacturing from Recyclables." (January 1996). **Solid Waste Management**. p. 1.
32. "Matters of Scale." (July/August 1991). **WorldWatch**. p. 39.
33. "Matters of Scale." (September/October 1991). **WorldWatch**. p. 39.
34. "Matters of Scale." (January/February 1992). **WorldWatch**. p. 39.
35. "Matters of Scale." (March/April 1992). **WorldWatch**. p. 39.
36. "Matters of Scale." (Jul/Aug 1992). **WorldWatch**. p. 39.
37. National Association for Plastic Container Recovery. (1994). **Plastic Fact Sheet**. National Association for Plastic Container Recovery, 4828 Parkway Plaza Blvd., Ste. 260, Charlotte, N.C. 28217.
38. National Soft Drink Association. (December 1988). **Things You Always Wanted To Know About Soft Drink Recycling**. National Soft Drink Association, 1101 Sixteenth Street, NW Washington, DC 20036. (202) 463-6732.
39. National Solid Waste Management Association. **Fact Sheet**. National Solid Waste Management Association, 1730 Rhode Island Ave., NW Ste. #100, Washington, DC 20036.
40. "A New Spin on Trash." (July 6, 1995). **Los Angeles Times**.
41. Newman, S., & Schwarz, M. (1993). **50 Simple Things Kids Can Do to Recycle**. Berkeley, CA: The EarthWorks Press, 1400 Shattuck Ave. #25, Berkeley, CA 94707. (415) 841-5860.
42. "Obsolete Machines Yield New Fortunes." (January 24, 1996). **American Metals Market**. p. 5.
43. Paper Stock Institute. (1990). "Why Recycle Paper?" **Recycling Paper**.

44. Patterson, Stan. Phone Interview. 27 February. 1996. Oxford Tire Recycling, P.O. Box 969, Wesley, CA 95387. (209) 894-3445.
45. Pimentel, Ph.D., David. "The Seeds of Change Indicator." **The Seeds of Change**. P.O. Box 15700, Santa Fe, NM 87506-5700. (505) 438-8080.
46. Punnett, P. A. & Thomas, M. **Let's Recycle** (Lesson Suggestions for Teachers of K-3). The Recycling Council of British Columbia, #503, 660 Fort Street, Victoria, BC, Canada V8W1G8.
47. Refuse Industry Production, Inc. (1988). **Garbage In America - The Choice is Yours**. (Educational Packet, Jr. High Grades) Refuse Industries Productions, Inc., P.O. Box 1011, Grass Valley, CA 95945. (916) 272-7289.
48. Reynolds Aluminum Co. (1994). **Recycle & Learn, Recycle & Earn**. Reynolds Aluminum Co., P.O. Box 20759, Jackson, MS 39289.
49. Sacramento County Department of Solid Waste Management. (1991). **Activities Guide to Solid Waste and Recycling**. Sacramento County Department of Solid Waste Management, 9850 Goethe Road, Sacramento, CA 95827.
50. Sacramento County Utilities - Composting Program. Sacramento County Utilities, 9700 Goethe Road, Ste. C., Sacramento, CA 95827. Steve Harriman (916) 855-5666.
51. San Diego County Office of Education. (1991). **RAYS - Recycle and You Save**. San Diego County Office of Education, San Diego, CA. (619) 974-2661.
52. "Saving the Earth." (March 29, 1993). **Newsweek - Just for Kids**. (Supplement).
53. Scrap Tire Management Council. (1992). **Retreading and Repairing**. Scrap Tire Management Council, 1400 K Street, NW, Washington, DC 20005.
54. Sierra Club. **Fact Sheet**. Sierra Club, 730 Polk Street, San Francisco, CA 94109.
55. South Carolina Electric & Gas Company. (1991). **Recycle - Save Energy**. South Carolina Clean & Beautiful, 1205 Pendleton Street, Ste. 517, Columbia, SC 29201.
56. State of California, Department of Health Services, Toxic Substances Control Program. **Handbook from the Toxic Substances Control Program**. Department of Health Services, Office of Public Government Liaison - Education and Information Unit, 400 P Street, P.O. Box 942732, Sacramento, CA 94234-7320.
57. State of California, Department of Health Services, Toxic Substances Control Program. **The No Waste Anthology**. Department of Health Services, Office of Public Government Liaison - Education and Information Unit, 400 P Street, P.O. Box 942732, Sacramento, CA 94234-7320.
58. Steel Can Recycling Institute. (Winter 1995). **Recycling Magnet**. Steel Can Recycling Institute, Foster Plaza 10, 680 Anderson Drive, Pittsburgh, PA 15220.
59. Thurston County Public Works. (Oct. 1992). **Trash Flash**. Thurston County Home Waste. Thurston County Public Works, Olympia, WA.
60. Town of Islip. (1988) **WRAP**. Town of Islip, Department of Environmental Control, 401 Main St., Islip, NY 11751.
61. US-EPA. (November 1994). **Characterization of Municipal Solid Waste in the United States: 1994 Update**. US-EPA, Attn: MSW Characterization Study 5360, 401 M Street, SW Washington, DC 20460.
62. US-EPA (July 1992) **Environmental Fact Sheet**. US-EPA, Public Information Center, 401 M. St., SW, PM-211B, Southeast Basement, Washington, DC 20460. (202) 475-7751.
63. US-EPA. **Fact Sheet**. US-EPA, Office of Solid Waste Management, Crystal Station One, 7th floor, 2800 Crystal Drive, Arlington, VA 22202.
64. Wilson, Wendy. **No Time to Waste**. New York Public Interest Research Group, Inc. Publications, 9 Murray St., New York, NY 10007. (212) 349-6460.
65. Worldwatch Institute. (April 1987). **Worldwatch Paper 76**. Worldwatch Institute, 1776 Massachusetts Ave., NW Washington, DC 20036.
66. Worldwatch Institute. (September 1991). **Worldwatch Paper 104: Jobs in a Sustainable Economy**. Worldwatch Institute, 1776 Massachusetts Ave., NW Washington, DC 20036.